FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD
TANK WASTE COMMITTEE
February 10, 2016
Richland, WA

Topics in this Meeting Summary

This is only a summary of issues and actions discussed at this meeting. It may not represent the fullness of represented ideas or opinions, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Bob Suyama, Tank Waste Committee (TWC) chair, welcomed committee members and introductions were made. The committee adopted the December 2015 TWC meeting summary including noted changes from committee members.

Announcements

Bob requested that committee members who would not be able to attend the second-half of the day's meeting read through the Waste Treatment and Immobilization Plant (WTP) Progress and Communication Approach, note their questions and comments on the handout, and return the document to him before they left. Bob was hopeful that the WTP Communication Approach would be ready to move to the Board for consideration in April 2016, and he wanted as much committee feedback as possible.

Ryan Orth, committee facilitator, announced that committee leadership positions for 2016 were open for nominations. Ryan noted that committee members could submit nominations to the facilitation team, committee members would vote on 2016 leadership positions during committee meetings or calls in March, and that 2016 committee leadership would be seated in April.

Safety Culture (joint w/HSEP)

Dirk Dunning, issue manager, continued the TWC's and the Health, Safety, and Environmental Protection (HSEP) Committee's recent examination and discussion of Hanford Site organizational safety culture, last addressed at the January 2016 HSEP meeting. Dirk was hopeful that Hanford Advisory Board (HAB) members could determine whether the Board should provide input to the Tri-Party Agreement (TPA) agencies on the values and definitions associated with safety culture at the Hanford Site. Definitions that Dirk highlighted include those related to the concepts of "organizational culture", "safety conscious work environment", "Safe by Design", "mitigation", and "design". Dirk stated that simple words such as "design" and "mitigation" vary in definition based on the context in which they are used, which can lead to confusion. "Design" is a noun that originated in having a plan. Over time, "design" has been adopted as a verb; a process that describes people, functions, and processes and how these components interact with one another. In order to clarify the aforementioned definitions, Dirk introduced two documents to TWC members for discussion and input: (1) Testing Safety Culture in Practice (Draft 3) [1] and (2) Safety Culture – Discussion Framing [2]. The revised draft HAB advice focuses on providing context for and clarifying terminology and behaviors associated with safety culture concepts, including terminology presented in in DOE orders regarding safety. Revisions to the advice, first introduced to the committee in December 2015, included discussion of various regulations, orders, manuals, standards and guides to consider and evaluate safety.

The draft advice centered on distinguishing the ideas of "Safe by Design" to help reduce confusion in future conversations between DOE and the HAB when discussing issues related to safety culture. The draft advice included advice points requesting the U.S. Department of Energy (DOE) consider their own safety culture definitions and how each of the safety culture concepts could be institutionalized at the Hanford Site. The Discussion Framing document was also revised since December based on feedback from issue managers.

Agency Perspectives

Steve Pfaff, Department of Energy – Office of River Protection (DOE-ORP), noted that he was pleased with several of the updates made to the draft safety culture advice following the committee's discussion in December 2015. Steve cautioned that audiences may interpret certain words, such as "adequate", "design," "mitigation," and "safety culture" differently based on individual perspectives and experiences. For example, specific to DOE Standard 1189, DOE interprets "adequate" as meaning "the right amount".

Attachment 1: Draft Hanford Advisory Board Advice: Testing Safety Culture in Practice, Draft 3 (2/3/16, issue managers Dirk Dunning and Liz Mattson)
Attachment 2: Safety Culture Discussion Framing, Draft Revision 5 (2/4/16, lead issue manager Dirk Dunning)

Steve noted that when it comes to safety standards, DOE employees are in a good position for how terms such as "safety" and "design" are interpreted and expressed within the organization's culture.

Committee Questions and Responses[3]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

C. There is some redundancy and lack of clarity within this document. When discussing organizational safety culture, it should really focus on safety leadership.

Q. [Ecology] What does the word "safety" mean in the context of this discussion and draft advice? What set of perspectives need to be incorporated into the definition of "safety," since there are so many potential interpretations, including process, design, and training?

> *R. The advice works to pose this question to DOE. Do DOE and the HAB share and agree upon the definitions and perspectives encompassed by the topic of safety culture? It does not appear as though there is consistency between interpretations; this leads to confusion between the institutions, and it may potentially diminish the effectiveness of safety culture at the Hanford Site.*

C. The objective is to bring clarity to the topic of safety culture and instead, this product is contributing to additional confusion. This issue can be simplified by looking at safety culture from two perspectives: (1) a design element and (2) a behavioral element. Safe design processes may be robust within an organization; however, if they are not implemented in the right way, then there are behavioral safety issues. Behavioral issues associated with safety culture are difficult to remedy. When reviewing the values of Hanford employees in past personal experience, there are three elements that were adequately integrated: (1) caring for one another's health and safety (2) leading within one's sphere of influence and (3) practice opening and listening communication with respect to each other's ideas. If these values were practiced, behavioral safety may be less of an issue.

C. The overarching concept of the nuclear industry is safety culture. Processes that are performed at the Hanford Site have coinciding work plans, safety procedures, and risk and safety analyses. It is not clear what the TWC is trying to achieve by presenting this piece of advice to DOE.

C. [DOE-ORP] The potential safety culture sounding board at an upcoming Board meeting will provide HAB members with the opportunity to identify questions, comments, and concerns that they are hearing from their constituencies. These perspectives could help Board members and DOE focus future safety culture conversations. DOE is interested in hearing from Board members what their communities feel about Hanford Site safety culture and where there is potential for enhancement.

C. On the topic of safety culture, the Board needs to share its perspectives and be careful to not step into the role of regulators. The Board can give feedback as to what its members believe are the problems. To that end, this draft advice needs to be more focused and carry a different tone.

C. The existing processes work well when people are working within common ground. The HAB's role is to provide feedback on problems that are expressed by the HAB's constituents.

C. The Board could potentially rework this draft advice into a letter as opposed to advice to the agencies. A letter would provide us with the opportunity to pose our questions to DOE and identify opportunities for future work.

R. [DOE-ORP] If members of the Board feel that there are any overarching design safety issues (i.e. trading safety for cost efficiency), that is a very important perception that DOE needs to be aware of. Communicating these perceptions to DOE via a letter or advice is important. DOE may then begin to look at potential outreach strategies for the public or briefings for the HAB that provide members with additional information about safe practices that DOE incorporates into design and work.

R. [Ecology] – It is important to consider the distinction of stating that improvements need to be made in various elements of safety culture versus the notion that safety is being traded out for cost. These are two separate topics.

C. Safety is considered in-depth when thinking about design elements. Safety is not traded out for cost, time, or design pressures.

C. Time is a large driver, as well as experience, for those involved in the design process at the Hanford Site. It can become costly to over-design to ensure safety, when adequate safety standards are already in place.

C. It is evident that there is a wide range of aspects that individuals feel are important or central to the topic of safety culture. Furthermore, there is considerable confusion as some individuals addressed the proposed advice, while others addresses the proposed introduction of the topic for the whole HAB. The range of views and opinions are so broad that no single unifying message, no common theme, and no set of theme elements are present upon which to base advice. Likewise, discussion on the background paper resulted in no common ground to proceed. The lack of any common ground for each of these documents should be cause for concern to DOE as DOE addresses safety culture with their staff.

Dirk observed that the committees were unable to reach consensus on the path forward for the safety culture topic or on potential deliverables, and suggested they discontinue discussion on the topic. Dirk stated that a letter might potentially be appropriate, but declined to author such a letter based on the level of disagreement between committee members and the lack of any common basis to proceed on the draft products presented.

Committee members agreed to readdress this topic at the next TWC meeting in order to prepare for and frame a potential sounding board on safety culture at the June 2016 Board meeting. In preparation for the next committee discussion, issue managers will plan to bring forward draft questions regarding interpretation and/or implementation of the key definitions outlined in the draft advice.

Grand Challenge Proposal for Direct Feed High-Level Waste

Bob Suyama, issue manager, introduced Albert Kruger, DOE-ORP, representing the winning team's proposal for the 2015 Grand Challenge on Direct Feed High-Level Waste (DFHLW). Bob noted that TWC members had interest in the potential future pathway for the project, including how the process could potentially affect the vitrification plant baseline, and the potential cost savings.

Agency Presentation

Albert Kruger, DOE-ORP, provided TWC members with an overview of the Grand Challenge criteria, as well as a briefing on his team's winning proposal to vitrify high-level waste (HLW).

Albert shared that the objective of DOE-ORP's annual Grand Challenge is to solicit new ideas that will allow the agency to meet its mission with greater efficiency. Winning entries must demonstrate that they could save DOE-ORP at least $250 million and that they are technically implementable within the existing policy framework. Albert noted that his team's proposal scored highest out of 41 submissions.

Albert noted that the general concept of his team's proposal was to provide direct-feed of High-Level Waste (HLW) solids and sludge through the HLW Facility, taking advantage of existing advances in vitrification technology. Albert noted that this could limit the amount of time that the HLW Facility would be idle as it awaited feed delivery from the Pretreatment Facility.

Key points from Albert's presentation[4] include:

- The current DOE-ORP framework calls for a staged startup of the River Protection Project, the mission to retrieve and treat Hanford Site tank waste and close the tank farms. The approach for Direct-Feed High-Level Waste (DFLAW) simplifies the existing framework by treating HLW sludge and solids in anticipation of bringing the Pretreatment Facility online.

- Sludge treatment at the Pretreatment Facility is currently the single largest cause for waste treatment technical issues at the Hanford Site. This has impacted the startup schedule for the WTP.

- Current plans for sludge treatment at the Pretreatment Facility are driven by the need to leach and wash the HLW from tanks to remove aluminum, chromium, sodium, and sulfur. The intent of removing these elements from HLW is to reduce the amount of glass produced to decrease the mission length and cost of HLW glass management.

- Recent advancements in glass formulation have demonstrated that pretreatment of HLW to remove aluminum, chromium, sodium, and sulfur may be unnecessary to the extent that the current WTP baseline calls for. There are several potential modifications to the leaching and washing of sludge outlined in the DFHLW proposal. Not leaching tank sludge could significantly reduce the amount of Low-Activity Waste (LAW) to be treated, significantly reducing the

Attachment 4: Grand Challenge Proposal for Direct Feed High-Level Waste (DOE-ORP presentation)

number of waste canisters produced by the WTP through its lifecycle. If leaching is deemed advantageous, a settle-decant process is possible and would reduce the need for the pretreatment of HLW sludge.

- Also, in conjunction with DFHLW, developments in glass formulations may have a significant impact on the number of waste canisters produced. Using DFHLW of the amount of HLW glass canisters produced from all of the Hanford Site tank wastes, without performing leaching, could require as few as 13,500 canisters. This much glass could be produced in as little as 21 years. The amount of HLW glass produced with leaching, will require approximately 7,950 canisters and can be produced in as little as 13 years.

- The DFHLW process has the potential to significantly reduce risks, by immobilizing over 50% of the curie content of the tank waste in under 1,000 canisters of HLW glass. Currently, 11 tanks contain 50% of the curie content of all tank waste. The DFHLW proposal anticipates that it could take approximately three years to vitrify the waste within these 11 tanks.

- A key aspect of this DFHLW process is to remove sodium and sulfur from tank waste using a settle-and-decant process, followed by cesium ion exchange to return cesium to the HLW stream. Advantages of this process include:

    - The PT Facility could be designed to process a minimal amount of solids, since a majority of solids will be directly-fed to the HLW Facility, thus reducing the operating cost for the PT facility.

    - The HLW Facility may be able to start treatment of tank sludge sooner, reducing risks posed by storage of sludge in Hanford tanks.

    - The treatment of LAW may be significantly reduced by adding sodium to the aluminum leaching process. As much as 20,000 metric tons of aluminum could be removed if this strategy were employed. Costs for this process will likely range between $500 million and $2 billion.

- A reasonable engineering projection for the startup of DFHLW for vitrification is seven years. This time would account for engineering studies, final design, construction of a feed receipt vessel near the HLW Facility, and completion of the HLW Facility. Glass property data, models, and formulations are currently undergoing study and development. An expected completion date of processing the inventoried tank waste is approximately 32 years based on the anticipated start-up date for the Pretreatment Facility and utilizing the improved glass formulations.

- The current estimate of HLW canister disposal costs are between $140,000 and $390,000 per cansiter, compared to previous estimates of $850,000 per canister. Furthermore, the simplified processes described in the proposal has the ability to reduce schedule risk.

- The recommended next step in exploring the potential for DFHLW is to perform a detailed engineering study in order to identify a proposed strategy and clarify next steps. Glass formulation and processing strategies will continue to be explored.

Committee Questions and Responses[3]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Are the acceptance criteria for HLW glass still tied to the Yucca Mountain facility, despite the uncertain future of the planned repository there?

> *R. [DOE-ORP] The criteria of the Grand Challenge note that proposals must work within existing policy and regulatory framework. Despite uncertainties surrounding the Yucca Mountain repository, it is still the legal disposition pathway for HLW.*

Q. According to the loadings on the new recently developed glass formulations, does the improved sulfur content remove technetium?

> *R. [DOE-ORP] Approximately 2/3 of technetium remain in the glass, with a single pass through the melter.*

Q. Would tank waste move into DFLAW treatment as a slurry?

> *R. [DOE-ORP] Yes.*

Q. In new glass models incorporating DFHLW, will the sodium eventually end up in HLW or LAW?

> *R. [DOE-ORP] The sodium would end up in the HLW.*

Q. Has the physical separation of cesium been considered during the melting process? It may rise to the top of the melter and the vitrified waste may become stratified. Cesium may appear within layers of mobile sodium.

> *R. [DOE-ORP] Halite and sodium are lost as temperatures increase. Cesium may appear in some of the halite and in the off-gas. DOE-ORP does not anticipate that the end product will be stratified. There is a requirement in place to not produce a phase-separated glass for HLW, and experiments have not demonstrated any mobile sodium.*

Q. What is the likelihood that DOE Headquarters will strongly consider this proposal as a waste treatment option?

> *R. [DOE-ORP] DOE Headquarters has provided strong support for this proposal.*

Q. Could DOE accelerate this proposal to start the necessary processes as soon as possible?

Attachment 3: Transcribed flipchart notes

R. [DOE-ORP] DOE will perform detailed engineering studies as a next step. These studies will help to demonstrate the potential of incorporating DFHLW into waste treatment planning.

C. Researchers at the University of Notre Dame have developed an inexpensive thorium borate mineral that converts the technetium valence state and locks technetium into a highly stable, durable waste form. DOE-ORP could potentially look into this compound as a strategy for capturing technetium released in melter off-gas during vitrification.

R. [DOE-ORP] DOE-ORP will continue to look into emerging vitrification strategies. A consideration for this type of treatment is waste density and crane capacity.

Q. If projections indicate that it will take three years to vitrify waste in 11 tanks that contain the most curies, why is it anticipated to take an additional thirty years to vitrify the remaining waste?

R. [DOE-ORP] There are 177 waste tanks at the Hanford Site. It will take this long to work through the tanks. In addition, there are the engineering challenges associated with transferring waste from the 200 West Area to the 200 East Area.

Q. Will there still be a need to have the Direct-Feed LAW system send captured cesium from tank supernatant back to double shell tanks (DST)?

R. [DOE-ORP] The engineering analysis can determine what the appropriate needs are.

Q. Is the DFHLW process predicated by the Low-Activity Waste Pretreatment System?

R. [DOE-ORP] No. Process engineers would consider both systems to determine which one should come on-line before the other.

Q. How many years of work does DFHLW have the potential to save?

R. [DOE-ORP] Using the baseline flow sheet, the mission with full-inventory of waste and full-leaching is 127 years. I t is not inconceivable that DFHLW could potentially fulfill the River Protection Project Mission in 30 years. Balance of Facilities systems will likely not be online until around 2030.

C. It would be helpful to have a diagram or chart simplifying some basic results of this proposal, including where waste is going, where waste is being treated, cost estimates, and approximate timelines for completion.

R. [DOE-ORP] Currently, this serves as a proposal. Information sharing in the forms of charts or diagram may be addressed at a later point in time.

Committee members thanked Al for his presentation and comments. Members identified that they would be interested to receive an update on DLHLW progress and additional information as it becomes available.

Issue Manager Update on Cesium Management Resulting from Low Activity Waste Pretreatment System (LAWPS)

David Bernhard, issue manager, provided TWC members with a summary of the updated draft of the HAB cesium management and disposition white paper [5]. David stated that the goal of the white paper was to identify and review alternatives to the current baseline of removing high-level cesium waste and returning it back to DSTs. He referred to the chart summarizing options for cesium waste, noting that several cesium disposition options had been removed due to uncertainty about their feasibility (e.g. deep borehole disposition). David also noted that, as cesium does not respond well to grout, methods outlined in the white paper did not incorporate grouted storage.

Agency Perspective

Steve Pfaff, DOE-ORP, noted that returning captured cesium from tank supernatant to DSTs was the current DOE-ORP baseline, as it made the most sense using currently available technology. He expressed interest in obtaining stakeholder views about cesium disposition options within the white paper, as opposed to the highly technical analysis presented in the current version. Steve suggested to elaborate the "comments" section of the table beginning on page one, highlighting that this type of information was the most useful to DOE-ORP. Steve also encouraged issue managers to consider including details focused on reliability, predictability, and regulatory pathways for each of the noted cesium management options.

Committee Questions and Responses [3]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Has the option of depositing cesium directly into LAW glass been considered?

> *R. [DOE-ORP] Currently, there are physical limitations that prevent that as a viable option.*

Q. Will there be iodine-129 or technetium-99 incorporated into LAW glass and disposed of on-site?

> *R. [DOE-ORP] Yes, that is the disposal plan, and it has been well documented for over a decade. The policy definition of HLW includes spent reactor fuel and materials that are produced during the reprocessing of spent nuclear fuel. Neither Iodine-129 nor technetium-99 are considered to be HLW.*

C. Several entities, including the States of Oregon and Washington and the Yakama Nation, petitioned the Nuclear Regulatory Commission to change the definition to one that is based on risk instead of origin. This is an issue that will likely not receive any clarification in the near future.

Attachment 3: Transcribed flipchart notes
Attachment 5: Cesium Management and Disposition Alternatives for the Low Activity Waste Pretreatment System (2/9/16, issue managers David Bernhard and Bob Suyama)

Attachment 3: Transcribed flipchart notes

R. [DOE-ORP] DOE-ORP uses the current policy definitions of HLW and LAW when planning for the treatment and disposal of waste.

Q. Is the technology available to construct a small-scale vitrification plant, strictly for handling cesium waste?

R. It is an option, but is excluded from this summary. Cesium can be vitrified but not in LAW glass.

R. [DOE-ORP] The appropriate technology is being developed internationally. Currently, DOE-ORP would not be able to afford this technology, it would still require additional testing, and there is currently no final repository option. It is risky to begin making various forms of glass with no final disposition plan.

R. [Ecology] Ecology is not interested in creating new waste forms without a firm disposition pathway in place.

Bob thanked Steve and committee members for their information and perspectives. Bob stated that he would work with David and other issue managers to revise the draft, incorporate additional high-level information, and remove or repackage technical details within the white paper. He noted that he would expand the existing table in the document to incorporate further comments and potential regulatory pathways for each noted cesium disposition options.

Committee members tentatively planned to hold further committee discussion on the white paper at the March 2016 TWC Meeting. The committee would then work to produce a final draft of the white paper for presentation at the April 2016 Board meeting.

Waste Treatment and Immobilization Plant Progress and Communication Approach (joint w/ PIC)

Bob Suyama, issue manager, provided committee members with an updated draft WTP Progress and Communication Approach white paper[6]. Bob noted that the product is not a communications plan and highlighted that the product's intention is to inform DOE-ORP of the perceptions of Board members regarding the WTP and communication of related information.

Agency perspectives

Joanne Grindstaff, DOE-ORP, expressed interest in receiving comments from Board members and their constituencies regarding how DOE-ORP can improve communication on issues taking place at Hanford with the public.

Attachment 6: Waste Treatment and Immobilization Plant (WTP) Communications Approach (2/8/16, issue managers Bob Suyama, Liz Mattson, Ken Niles, Steven Hudson, Susan Leckband)

Committee Questions and Responses[3]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

C. Until there is complete transparency from DOE, a communications approach is not going to be the solution. It is difficult for Board members to lend suggestions based on topics or issues that are restricted by legalities.

> *C. The lack of transparency contributes to a lack of credibility from DOE-ORP.*
>
> *R. [DOE-ORP] DOE-ORP does provide TWC with information. There are certain topics that the agency is not legally allowed to discuss, but DOE-ORP does bring valuable information to the HAB. Based on the existing lawsuit between the State of Washington and the Secretary of Energy, there are limitations on the types of information that can be shared, and the timeline in which information can be released.*
>
> *R. [DOE-ORP] It can be challenging to choose the appropriate timing as to when DOE can bring information to the HAB. The agency strives to be as inclusive as possible, but as plans change the agency wants to avoid going back and forth on topics or ideas presented to the HAB, in an effort to build creditability.*

C. [DOE-ORP] What would be helpful within the draft document is to remove the summaries of the facilities themselves and include specific recommendations on communication approaches and methods that DOE could employ, as well as identify what type of audience would be the most useful to reach out to.

C. An approach that DOE could utilize would be to generate success stories that have come from the cleanup at the Hanford Site and communicate those projects to the general public. In an effort to build credibility, focus less on the issues that have yet to be resolved, and present opportunities for the public to hear or see past successes.

> *R. That may not be the best approach. The public may ask more questions but won't be able to receive answers because it is bounded by legalities. Until the DOE and the HAB are working together as partners, there remains lack of creditability and transparency on the issues.*
>
> > *C. [DOE-ORP] Joint communication opportunities between DOE and the HAB could be a recommendation to include in the WTP communications approach product.*

Attachment 3: Transcribed flipchart notes

DOE-ORP offered to provide comments on the product and send to TWC issue managers for consideration. Issue managers committed to update the draft white paper for review at the March 2016 TWC meeting. Issue managers noted that they intend to have a final draft of the communication approach ready for Board review in April 2016.

Committee Business

TWC 3-Month Work Plan[7] [3]

TWC will plan to hold a half-day committee meeting, preliminary scheduled for March 15, 2016. The meeting will tentatively include the following topics:

- Receive an issue manager update on LAWPS cesium management white paper
- Receive an issue manager update on the WTP progress and communication approach white paper
- Discuss committee leadership nominations

TWC plans to participate in discussions with the Budgets and Contracts Committee (BCC) regarding upcoming budget topics in fiscal year (FY) 2017 and FY 2018. The specific timing of these discussions with BCC are to be determined through the Executive Issues Committee.

In April 2016, TWC will tentatively plan to meet and discuss tank removal technology, the tank closure regulations process, safety culture for Sound Board preparation, receive an update on the effluent management facility, and be introduced to DOE-ORP's new chief engineer.

Attachment 3: Transcribed Flipchart notes
Attachment 7: TWC 3-Month Work Plan

Attachments

Attachment 1: Draft Hanford Advisory Board Advice: Testing Safety Culture in Practice, Draft 3 (2/3/16, issue managers Dirk Dunning and Liz Mattson)

Attachment 2: Safety Culture Discussion Framing, Draft Revision 5 (2/4/16, issue manager Dirk Dunning)

Attachment 3: Transcribed flipchart notes

Attachment 4: Grand Challenge Proposal for Direct Feed High-Level Waste (DOE-ORP presentation)

Attachment 5: Cesium Management and Disposition Alternatives for the Low Activity Waste Pretreatment System (2/9/16, issue managers David Bernhard and Bob Suyama)

Attachment 6: Waste Treatment and Immobilization Plant (WTP) Communications Approach (2/8/16, issue managers Bob Suyama, Liz Mattson, Ken Niles, Steven Hudson, Susan Leckband)

Attachment 7: TWC 3-Month Work Plan

Attendees

Board members and alternates:

David Bernhard	Steve Hudson (phone)	Emerett Moore (phone)
Richard Bloom	Mike Korenko	Jerry Peltier
Don Bouchey	Pam Larsen	Emily Peterson (phone)
Amoret Bunn	Susan Leckband	Richard Smith
Shelley Cimon	Liz Mattson (phone)	Bob Suyama
Dirk Dunning	Kristen McNall (phone)	Margery Swint
Becky Holland	Melanie Meyers-Magnuson	Jean Vanni

Others:

Wahed Abdul, DOE-ORP	Robbie Biyani, Ecology	Phillip Lemley, City of Richland
Joanne Grindstaff, DOE-ORP	Dan McDonald, Ecology	Samantha Herman, EnviroIssues
Albert Kruger, DOE-ORP	Tom Rogers, DOH	Ryan Orth, EnviroIssues
Steve Pfaff, DOE-ORP		Sharon Braswell, North Wind/DOE-ORP
Kris Holmes, DOR-RL		Kelsey Shank, SN3
		Annette Cary, Tri-City Herald
		Katherine Bittinger, WSU